CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 89-161

SITE CLEANUP REQUIREMENTS FOR:

SAFETY-KLEEN CORPORATION AND
JOHN BERTOLOTTI

FOR THE PROPERTY LOCATED AT:

3461 WOODWARD AVENUE
SANTA CLARA
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. SITE DESCRIPTION Safety-Kleen Corporation (Safety-Kleen) operated a solvent storage and transfer facility at 3461 Woodward Avenue in Santa Clara (Site) from 1977 to 1984. The property was leased from John Bertolotti , who owns the property. The Site occupies approximately one-third of an acre and is located about one-half mile west of the Guadalupe River. The solvent storage and transfer operations at the Site ceased in 1984 and all the equipment has been removed from the Site.

2. REGULATORY STATUS Safety-Kleen (hereinafter referred to as a discharger) is a discharger because of their occupancy of the Site for 7 years during which releases of chemicals have occurred. John Bertolotti (hereinafter referred to as a discharger) is a discharger because of current ownership of the Site and will be responsible for compliance in the event that Safety-Kleen fails to comply with the requirements of this Order.

3. SITE HISTORY Safety-Kleen stored clean and spent solvent in two 15,000 gallon underground steel tanks (see site location map). The clean solvent was primarily mineral spirits (petroleum naphtha), with less than 1 percent comprised of light aromatic hydrocarbons, toluene, perchloroethene, 1,1,1-trichloroethane, trichloroethene, and methylene chloride. The clean solvent was pumped through approximately 60 feet of galvanized steel underground piping to a nozzle-controlled hose and emptied into drums for distribution. Spent solvent and associated solids, oil, and grease were emptied from drums into a screened dumpster. The liquid portion flowed from the dumpster through approximately

110 feet of galvanized steel underground piping to the spent solvent tank. The dumpster sludge was stored in 16 gallon drums in a warehouse onsite. Tanker trucks operated by Safety-Kleen emptied the spent solvent tank and filled the clean solvent tank through fill pipes leading to the tanks (see site location map).

4. HYDROGEOLOGY Soils beneath the Site consist of a series of interbedded sands and clays. A shallow confined or semi-confined aquifer occurs from approximately 12 to 25 feet below ground surface. Water levels occur in this aquifer at a depth of about 10 feet below ground surface. Based on one deep well boring, a clay layer occurs from about 22 to 37 feet below ground surface, and is underlaid by a water bearing zone from 37 to 55 feet below ground surface. The water level in this deeper zone was originally encountered at about 9 feet below ground surface, which is approximately one foot above the water level in the upper aquifer at the time the deep well was drilled. The natural groundwater gradient ranges from 0.001 to 0.003 ft/ft, as measured in August 1988, and the flow direction is to the north. Recently, the gradient has increased and the flow direction onsite has changed toward an onsite operating recovery well.

5. SOIL AND GROUNDWATER INVESTIGATIONS Subsurface investigations were conducted for Safety-Kleen, beginning in 1984, and included the drilling of 31 soil borings, the installation of 12 groundwater monitoring wells, aquifer pump testing, and soil venting tests. Results of these investigations indicate that the sources of subsurface pollution are probably spillage of clean solvent into the soil surrounding the fill pipe area leading to the clean solvent tank, spillage of spent solvent into the soil surrounding the fill pipe area from the dumpster leading to the spent solvent tank, and may also be leaks from the underground piping and the underground storage tanks.

Soil samples taken from the unsaturated zone during removal of the underground solvent tanks (April 1984) contained mineral spirits from 2000 parts per million (ppm) at a depth of 5.5 feet below ground surface to 4600 ppm at a depth of 8 feet below ground surface. In the spent solvent fill pipe area near the dumpster, soil in the unsaturated zone contained concentrations of mineral spirits as high as 3900 ppm one foot below the ground surface.

Spent solvent and mineral spirits have been observed floating on the groundwater in soil borings at the underground tank location (April 1984), and in other onsite wells (May 1989). Analytical results for groundwater samples indicate the presence of dissolved mineral spirits and volatile organic chemicals including 1,1-dichloroethane at up to 40,000 ppb and 1,1,1-trichloroethane at up to 10,000 ppb. In offsite well 5SMW, trichloroethene has been detected in groundwater in concentrations up to 680 ppb.

6. INTERIM REMEDIAL ACTIONS Interim remedial actions have been implemented at Safety-Kleen. These actions include tank and associated polluted soil removal, installation of a groundwater recovery and treatment system, and installation of a soil venting system.

The two underground solvent tanks were removed in April 1984. In March 1986, 675 cubic yards of soil and 41,000 gallons of groundwater were reportedly removed from the tank excavation pit. A soil vent system to address onsite soil pollution began operation in August 1988. This system includes 13 soil vapor extraction points. Additionally, a groundwater recovery and treatment system to address onsite and offsite pollution began operation in August 1988. This system has one recovery well equipped with a water table depression pump, and an air-stripping tower. The treated water is discharged to the storm drain by NPDES permit number CA0029416 (Waste Discharge Requirement 88-115). The effectiveness of the interim remedial actions has not been evaluated.

7. SCOPE OF THIS ORDER This order contains tasks for completion of site characterization, evaluation of interim remedial actions, and preparation and implementation of final remedial actions. These tasks are necessary to alleviate the threat to the environment posed by the migration of the groundwater plume of pollutants and to provide a substantive technical basis for designing and evaluating the effectiveness of final cleanup alternatives. This order supersedes Order 87-22, previously adopted for this Site.

8. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives and beneficial uses for South San Francisco Bay and contiguous surface and groundwaters.

9. The existing and potential beneficial uses of the groundwater underlying and adjacent to the facility include:

   a. Industrial process water supply
   b. Industrial service water supply
   c. Municipal and Domestic water supply
   d. Agricultural water supply

10. The dischargers have caused or permitted, and threaten to cause or permit, waste to be discharged or deposited where it is, or probably will be, discharged to waters of the State, and create, or threaten to create, a condition of pollution or nuisance.

11. This action is an order to enforce the laws and regulations administered by the

Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.

12. The Board has notified the dischargers and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

13. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the discharger shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.

2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. SPECIFICATIONS

1. The storage, handling, treatment or disposal of soil or groundwater containing pollutants shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. The dischargers shall conduct site investigation, monitoring and remediation activities as needed to define the local hydrogeologic conditions, to define the lateral and vertical extent of soil and groundwater pollution, and to remediate soil and groundwater pollution. Should monitoring results show evidence of pollutant migration, additional characterization and remediation of pollutant extent may be required. Within 60 days of the Executive Officer's determination and actual notice to John Bertolotti that Safety-Kleen Corporation has failed to comply with the prohibitions, specifications, and/or provisions of this Order, John

Bertolotti, as landowner, shall comply with the prohibitions, specifications, and/or provisions of this Order.

3. The cleanup goal for source-area soils is 1 ppm for total VOCs. Alternative cleanup goals may be proposed based on site specific data. If higher levels of VOCs are proposed, the discharger must demonstrate that cleanup to 1 ppm total VOCs is infeasible, that the alternate levels will not threaten the quality of waters of the State, and that human health and the environment will be protected. Final cleanup goals for source-area soils must be acceptable to the Executive Officer.

4. Final cleanup levels and goals for polluted groundwater, onsite and offsite, shall be background water quality if feasible, but shall not be greater than the DHS drinking water Action Level (AL) or Maximum Contaminant Level (MCL), whichever is more stringent. If an AL or MCL has not been established, the level shall be in accordance with the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California", shall be based on an evaluation of the cost, effectiveness and a risk assessment to determine affect on human health and the environment, and shall be approved by the Board. These levels shall have a goal of reducing the mobility, toxicity, and volume of pollutants.

5. If groundwater extraction and treatment is considered as an alternative, the feasibility of water reuse, reinjection, and disposal to the sanitary sewer must be evaluated. Based on the Regional Board Resolution 88-160, the discharger shall optimize, with a goal of 100%, the reclamation or reuse of groundwater extracted as a result of cleanup activities. The discharger shall not be found in violation of this Order if documented factors beyond the discharger's control prevent the discharger from attaining this goal, provided the discharger has made a good faith effort to attain this goal. If reuse or reinjection is part of a proposed alternative, an application for Waste Discharge Requirements may be required. If discharge to waters of the State is part of a proposed alternative, an application for an NPDES permit must be completed and submitted, and must include the evaluation of the feasibility of water reuse, reinjection, and disposal to the sanitary sewer.

C. PROVISIONS

1. The discharger shall comply with the Prohibitions and Specifications above, in accordance with the following time schedule and tasks:

TASKS AND COMPLETION DATES

a. TASK: SUBMIT REVISED SITE SAFETY, SAMPLING AND ANALYSIS, AND QUALITY ASSURANCE PROJECT PLANS:

Submit updated Site Safety, Sampling and Analysis, and Quality Assurance Project Plans acceptable to the Executive Officer, with format and content that considers CERCLA guidance documents.

COMPLETION DATE: November 31, 1989

b. 1) TASK: EVALUATE INTERIM REMEDIAL ACTIONS:

Submit a technical report acceptable to the Executive Officer which evaluates the effectiveness of the interim groundwater remediation system and of the soils remediation activities onsite. Such an evaluation shall include, but need not be limited to, an estimation of the flow capture zone of the extraction well, establishment of the cones of depression by field measurements, and presentation of chemical monitoring data.

COMPLETION DATE: December 31, 1989

2) TASK: PROPOSE COMPLETION OF SITE CHARACTERIZATION AND MODIFICATIONS TO INTERIM REMEDIAL ACTIONS:

Submit a technical report acceptable to the Executive Officer which summarizes the results of site characterization to date, including definition of the extent of soil pollution, groundwater pollution, and free product; includes a proposal and time schedule to perform any additional work necessary to complete site characterization; specifies modifications to the interim remedial actions and proposes an implementation time schedule in the event that the soil or groundwater remediation system is demonstrated not to be effective in containing and removing the onsite pollutants.

COMPLETION DATE: December 31, 1989

c. TASK: COMPLETE SITE CHARACTERIZATION AND MODIFICATIONS TO INTERIM REMEDIAL ACTIONS:

Submit a technical report acceptable to the Executive Officer documenting completion of the necessary tasks identified in the technical report submitted for Task 1.b.2).

COMPLETION DATE: May 31, 1990

d. TASK: PROPOSE FINAL CLEANUP OBJECTIVES AND ACTIONS:

Submit a technical report acceptable to the Executive Officer that proposes final cleanup objectives and actions for all areas of the Site where soil and/or groundwater pollution was detected. The report shall contain the results of the remedial investigation; an evaluation of the installed interim remedial measures; a feasibility study evaluating alternative final remedial measures; the recommended measures necessary to achieve final cleanup objectives; and the tasks and time schedule necessary to implement the recommended final remedial measures.

COMPLETION DATE: September 30, 1990

e. TASK: COMPLETE IMPLEMENTATION OF FINAL REMEDIAL ACTIONS:

Submit a technical report acceptable to the Executive Officer documenting the implementation of final remedial actions as proposed and accepted by the Executive Officer in accordance with Task d. above.

COMPLETION DATE: 60 days after implementation of the actions as proposed and accepted by the Executive Officer in accordance with Task d. above.

f. TASK: SUBMIT FIVE YEAR STATUS REPORT:

Submit a technical report acceptable to the Executive Officer containing the following: 1) results of any additional investigative work completed; 2) an evaluation of the effectiveness of installed final cleanup measures; 3) additional recommended measures to achieve final cleanup objectives and goals, if necessary; 4) a comparison of previous expected costs with the costs incurred and projected costs necessary to achieve cleanup objectives and goals; 5) the tasks and time schedule necessary to implement any additional final cleanup measures; and 6) recommended measures for reducing Board oversight. This report shall also describe the reuse of extracted groundwater, evaluate and document the removal and/or cleanup of polluted groundwater, and evaluate and document the removal and/or cleanup of polluted soil. If safe drinking water levels have not been achieved through continued groundwater extraction and/or soil remediation, this report shall also contain an evaluation addressing whether it is technically feasible to achieve drinking-water quality onsite, and if so, a proposal for procedures to do so.

COMPLETION DATE: September 30, 1994

2. The submittal of technical reports evaluating interim and final remedial measures will include a projection of the cost, effectiveness, benefits, and impact on public health, welfare, and environment of each alternative measure. The remedial investigation and feasibility study shall consider the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300); Section 25356.1 (c) of the California Health and Safety Code; CERCLA guidance documents with reference to Remedial Investigation, Feasibility Studies, and Removal Actions; and the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California".

3. If the discharger(s) are delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the discharger(s) shall promptly notify the Executive Officer and the Board may consider revision to this Order.

4. The discharger shall submit to the Regional Board acceptable reports on compliance with the requirements of this Order, and acceptable activity monitoring reports that contain descriptions and results of work performed. These reports are to be submitted according to a program prescribed by the Regional Board and outlined below.

   a. ON A MONTHLY BASIS, technical reports on status of compliance with this Order shall be submitted to the Board, commencing on October 15, 1989. Each report shall cover the previous month and shall include, but are not limited to, the following:

      1) Summary of work completed since submittal of the previous report, and work projected to be completed by the time of the next report.

      2) Identification of any obstacles which may threaten compliance with the schedule of this Order and what actions are being taken to overcome these obstacles.

      3) Written notification which clarifies the reasons for non-compliance with any requirement of this Order, and which proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order.

   b. ON A QUARTERLY BASIS, technical reports on soil and groundwater

monitoring shall be submitted to the Board, commencing on January 15, 1990, and covering the previous calendar quarter. The quarterly reports may include the monthly reports due concurrently, beginning with the January 15, 1989 monthly report included in the January 15, 1990 quarterly report. The quarterly reports shall include, but need not be limited to, the following information:

1) Results of quarterly water quality sampling analyses for all onsite and offsite wells using analytical methods 8010, and results of biannual water quality sampling analyses for wells 3SMW, 8SMW, 9SMW, and 11SMW using 5030/8015 for mineral spirits, and groundwater pollution plume maps based on these results, including the free product plume.

2) Quarterly updated water table and piezometric surface maps, based on the most recent water level measurements for all affected water bearing zones for all onsite and offsite wells. The first set of data shall be reported in the quarterly report due January 15, 1990.

3) A cumulative tabulation of volume of extracted groundwater, chemical analysis results for all groundwater extraction wells, and pounds of chemicals removed.

4) A cumulative tabulation of all well construction details, and quarterly water level measurements.

5) Results of quarterly soil vapor sampling analyses for all soil vapor extraction wells, soil plume maps based on these results, a cumulative tabulation of the chemical analyses results for all vapor extraction wells, and a cumulative tabulation of pounds of chemicals removed.

6) Reference diagrams including geologic cross-sections describing the hydrogeological setting of the Site, and appropriately scaled and detailed base maps showing the location of all monitoring wells and extraction wells, and identifying adjacent facilities and structures.

7) Identification and notification of non-compliance with groundwater monitoring requirements of this Order, as described in Provisions 4.A.2. and 4.A.3.

c. ON AN ANNUAL BASIS, technical reports on the progress of compliance with all requirements of this Order shall be submitted to the Board, commencing on January 15, 1991, and covering the previous year. Annual reports may include monthly and biannual reports due concurrently. The progress reports shall include, but need not be limited to, progress on the site investigation and remedial actions, operation of interim and final remedial actions and /or systems,

and the feasibility of meeting groundwater and soil cleanup goals.

d. Reporting and monitoring requirements may be reviewed at any time after adoption of this Order upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer or the Regional Board.

5. All hydrogeological plans, specifications, reports, and documents shall be signed by or stamped with the seal of a registered geologist or professional engineer, or certified engineering geologist.

6. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain Quality Assurance/Quality Control records for Board review.

7. The discharger(s) shall maintain in good working order, and operate, as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.

8. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, shall be provided to the following agencies:

   a. Santa Clara Valley Water District (Tom Iwamura)
   b. Santa Clara County Health Department (Lee Esquibel)
   c. City of Santa Clara (Dave Parker)
   d. State Department of Health Services/TSCD (Howard Hatayama)

9. The discharger(s) shall permit the Board or its authorized representative, in accordance with Section 13267(c) of the California Water Code:

   a. Entry upon premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.

   b. Access to copy any records required to be kept under the terms and conditions of this Order.

   c. Inspection of any monitoring equipment or methodology implemented in response to this Order.

   d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program

undertaken by the discharger.

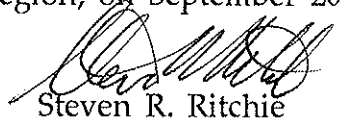
10. The discharger(s) shall file a report on any changes in Site occupancy and ownership associated with the facility described in this Order.

11. If any hazardous substance is discharged in or on any waters of the state, or discharged and deposited where it is, or probably will be discharged in or on any waters of the state, the discharger shall report such discharge to this Regional Board, at (415) 464-1255 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non--business hours. A written report shall be filed with the Regional Board within five (5) working days and shall contain information relative to: the nature of waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control, and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effect, corrective measures that have been taken or planned, and a schedule of these activities, and persons/agencies notified.

12. Order 87-22 is hereby rescinded with adoption of this Order.

13. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on September 20, 1989.



Steven R. Ritchie
Executive Officer